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whether a softer age laughed at or worshipped them—whether they were to be ranked among the classicks, or barbarians of poetry, whether theirs was to be called an Augustan era, or merely the plain old English days of Elizabeth.

FOR THE NORTH-AMERICAN JOURNAL.

On Geological Systems.

SIR,

If the following pages will do for your Journal, I offer them for insertion. They are the amount of a conversation reduced to writing, and of course necessarily superficial and imperfect. A lady, whose reading was more among the lighter books of literature, than the ponderous ones of science, having met with some allusions to the *Vulcanian* and *Neptunian* theories of the earth, and mention of *Vulcanists* and *Neptunists*, requested of me an explanation of these systems. Without pretensions to any profound knowledge of geology, I should have hesitated at the task, if a very learned dissertation had been necessary; but trusting that my fair inquirer had too little acquaintance with science, to expose my errors, if she would, and too much good nature to do it, if she could, I attempted a brief exposition of the subject.

Among the heathen divinities, there were two of great eminence, whose names have been borrowed by geologists, as very convenient to designate their different theories. Neptune was the God of the sea, the brother of Jupiter, and drove about the capricious element he ruled, in a large shell, drawn by sea horses, of a breed which are now extinct, except in the designs of artists. He carried in his hand a fork with three prongs, called a trident. As the God himself has not been seen for some centuries, a very famous nation, who have driven very furiously over the ocean, without the aid of horses, had long claimed to be in possession of his trident, which has been called, “the sceptre of the globe.” The world has generally acceded to this pretension, though having driven with too much violence, and too little caution against some who were travelling the same rout, it is supposed, that a younger nation obtained one of the prongs in a short scuffle, which ensued at last, in consequence of frequent altercation.

Vulcan was more renowned for his skill, than his good fortune. He formed a very brilliant, but unfortunate matrimonial connexion. His principal employment was forging thunderbolts for Jupiter, who, like other tyrants, was often in a passion. Our fellow townsman, Dr. Franklin, has protected us by one of his discoveries, from the skill of Vulcan, and the force of Jupiter; and as he also contributed to establish the liberty of our country, both these exploits have been happily commemorated in a well known line in Latin, which I need not repeat.

Vulcan's workshops were situated near Mount Etna, and he employed a number of gigantick journeymen, with only one eye in the centre of their forehead, called Cyclops. A very particular account of these people, and the adventures of Ulysses among them, you will find in the 9th book of that most amusing poem, the *Odyssey*. It is impossible not to remark here, how much the poets can make out of the simplest materials. This story of Vulcan, his labours, and labourers, are all derived from one of the earliest iron founders, whose workmen, to protect their eyes from the intense heat of the metal, wore a leather mask, which had one large hole in the centre; Homer transformed these poor blacksmiths into monsters, and made them immortal.

Now Geologists are divided into two parties: the first say that this globe was formed by the agency of fire, and they are called *Vulcanists*, from the God of fire. The others maintain that water was the agent, and are called *Neptunists*, from the God of that element. Perhaps you may obtain some idea of their different theories, by applying them alternately to the formation of that cumbrous, magnificent, wedding cake, which stands on the table near us, with all its ornaments of gilded box, motto shells, sugared almonds, &c. &c. In reasoning on its formation, of which I really know little more than of that of the earth, which groans under its weight; I will apply, alternately, the Neptunian and Vulcanian theories, to account for its construction. The lady here inquired, whether these theories did not interfere with the Mosaick account of the creation? I explained to her, that there was nothing irreverent in these investigations; that in the various departments of the Old Testament, the most pious and learned theologians were undecided what was exactly historical, metaphorical, or inspired—That many parts of it were mysterious, and the whole an object of faith and veneration—That men of science, who should

be the last to interfere with any thing religious, conducted their inquiries without any reference to that sacred relation. They reasoned precisely, as if no such account existed.

To commence with the Vulcanian theory, a geologist of this school would say, that water was not an adequate agent to produce the effects we witness; that there must be a great central fire to have formed this composition; that the surface exhibits the most evident marks of fusion, and in penetrating beneath it, there is a black carbonaceous crust, which is evidently the product of fire; that if it had been the product of water, instead of the irregular lava which now covers its surface, vegetation would have appeared the moment the surface was exposed, and before it could be wholly desiccated. Whereas, the slow decomposition of a volcanick surface, is here shewn by the scanty vegetation that appears; besides, the specimens of gold in a pure state, must have been the product of fire. It is quite clear, that if it had not been through the agency of the principle of calorick, which pervades and animates all creation, this production would never have existed.

The Neptunist would say, that there were too many appearances to leave any doubt about the agency of water: the amygdaloids, mandelsteins, or almond stones, by their rounded and washed appearance, had evidently been rolled in the water, and the incrustation that surrounded them was the mere induration of the deposit, in which they had been left, after the water had receded; that a further convincing proof might be found in those fossile shells, which would have been calcined by the fire. These shells resemble no species exactly,* that are now found, and were evidently the tenants of those ancient waters, which once covered the globe, and have since been exhaled or contained within the bounds of the different oceans. Besides, if water had not held the whole globe in solution, how could they thus be found on its highest surfaces, and imbedded so deeply in the interior, forming whole masses of zoolite strata. My interesting inquirer here became impatient, which the reader may wonder had not been the case sooner, and said, that as this bridal cake was notoriously made with the help of both fire and water, why may not the geologists agree to admit the intervention of both, and thus put an end to the dispute—

* For the satisfaction of the learned reader, I suggest that this shell comes the nearest to the species *Uva*, genus *turbo*, *cochlea alba ventricosa*, *bidens*, *Strys eminentibus*, *exasperata*.

My dear friend, this would be fatal! science is like love, if there are too many disputes, it expires in a war of words; but if it never excites any discussion, it will be extinguished in apathy.

WERNER.

To the Editor.



FOR THE NORTH-AMERICAN JOURNAL.

In the last number of the North-American Review, there is a letter from two Clergymen, directors of a theological seminary in New-York, which struck me with astonishment. I do not pretend to interfere with the policy of the Institutions of that State; if they choose to appropriate funds for the support of a school conducted in such a manner, however contrary it may be to the spirit of our civil and political constitutions; the patrons of it may still persevere. But, I have noted the occurrence for the purpose of congratulating the state of Massachusetts, that through the wisdom of their legislature they are not disgraced by a school, where such despotism can be exercised. The Andover Institution, attempted unsuccessfully, to obtain the same privilege, which was wisely refused. I am told that the very same doctrine, which drew down such an unrelenting decree on the unfortunate individual, would at Andover, have been favourably received. The College of the Sorbonne, of the Jesuits, or of the Holy Office, could not have exercised a more summary vengeance, or one dictated in a spirit of greater arrogance. Is it then compatible with our ideas of liberty, or the rights of conscience, that a power thus to punish a mere matter of opinion, unconnected with any violation of morality, should receive support and protection?

Allow me to copy for the use of these mild theologians, the following passage from a certain poet called Shakespeare, it is taken from one of his profane plays, entitled, *Measure for Measure*.

———Oh it is excellent
To have a giant's strength; but it is tyrannous,
To use it like a giant——
Could great men thunder,
As Jove himself does, Jove would ne'er be quiet,
For every pelting, petty officer
Would use his heaven for thunder; nothing but thunder.
Merciful heaven!